



Nebraska Public Power District

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July 21, 1998

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

Subject: Reply to an Exercise Weakness
NRC Inspection Report No. 50-298/98-16
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

Reference: 1. Letter to G. R. Horn (NPPD) from Blaine Murray (USNRC) dated June 22, 1998, "NRC Inspection Report 50-298/98-16"

By letter dated June 22, 1998 (Reference 1), the NRC reported the results of an emergency preparedness inspection at Cooper Nuclear Station. One Exercise Weakness was identified in the referenced report. This letter, including Attachment 1, constitutes the Nebraska Public Power District's (District) reply to the identified Exercise Weakness. The District acknowledges the Exercise Weakness and has initiated appropriate corrective actions as described in Attachment 1.

Should you have any questions concerning this matter, please contact me.

Sincerely,

John H. Swailes
Vice President of Nuclear Energy

/lrd
Attachment

cc: Regional Administrator w/attachment
USNRC - Region IV

Senior Project Manager w/attachment
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/attachment
USNRC

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REPLY TO IR 50-298/98-16, EXERCISE WEAKNESS
COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298, LICENSE DPR-46

During NRC inspection activities conducted from June 8, 1998 through June 11, 1998, one Exercise Weakness was identified. The particular weakness and the District's reply are set forth below:

Exercise Weakness

Radiological contamination controls were not properly implemented in the TSC and OSC (the two facilities are collocated). Inspectors observed the following sequence:

- At 11 a.m., about 15 minutes after initial contamination controls were established (personnel contamination monitor activation/frisker placement nearby on the floor), the trouble light on the personnel contamination monitor illuminated, indicating the monitor was out of service.*
- At about 12:10 p.m., a team of three, including a radiation protection technician, entered the TSC/OSC without using the personnel monitoring equipment to check for contamination.*
- At 12:15 p.m., the TSC radiation protection coordinator noted the condition of the personnel contamination monitor but took no actions to either correct the monitor problem or to inform the TSC/OSC staff of the need to use the frisker.*
- Between approximately 12:15 and 1 p.m., at least five more workers bypassed the personnel contamination monitoring equipment, and again, at least one of the five workers was a radiation protection technician.*
- At 1:08 p.m., the OSC supervisor finally announced to the OSC personnel that the personnel contamination monitor was out-of-service and that all personnel entering the TSC/OSC were required to perform a manual frisk prior to entering the centers.*
- A contamination survey was finally conducted at 1:10 p.m., after an OSC worker informed radiation protection personnel that some people did not use the contamination equipment prior to entering the TSC/OSC. Inspectors questioned the appropriateness of the habitability survey procedure since only airborne and area radiation readings were initially specified, even after contamination controls were established outside the TSC/OSC door.*

- *Between about 1:15 and 1:45 p.m., three more people entered the TSC/OSC without using the contamination monitoring equipment. One security officer noted the personnel contamination monitor was out-of-service and paged radiation protection, via GAITRONICS, to get direction on how to enter the TSC/OSC. This action was appropriate. Although the individual contacted was not participating in the exercise, the response given was incorrect (the officer was told to bypass the contamination monitoring equipment).*

The failure to implement proper radiological contamination controls in the TSC and OSC was identified as an exercise weakness due to the potential disruption to the response effort that would have occurred if the TSC and OSC personnel and facilities became contaminated (50-298/98016-01).

Root Cause of Exercise Weakness

The root cause of this weakness is the failure to appropriately communicate the requirements for personnel contamination monitoring immediately prior to entering the Technical Support Center/Operations Support Center (TSC/OSC) once contamination controls are established. A significant contributor to this root cause was the use of unfamiliar postings, not normally used in the plant, to indicate that the TSC/OSC entrance was a radiological boundary.

Evaluation of Specific Attributes of Exercise Weakness

Although during the drill there were individuals who appropriately utilized contamination monitoring equipment (frisker) and properly obeyed postings prior to entry to the TSC/OSC, there were individuals whose performance in personnel monitoring was less than adequate. There are several behavioral patterns attributed to the sequence of events as described above which led to a weakness in contamination controls. This includes inappropriate assumptions, drill control, and radworker practices.

At 12:10, a team of personnel, including a Radiation Protection (RP) technician entered the TSC/OSC without using personnel monitoring equipment. The personnel contamination monitor (PCM) located at the entrance was out of service (as indicated by a trouble light), however a frisker was located nearby on the floor. The team which entered did not see the frisker and simulated using the PCM. The RP technician informed the TSC Chemistry/Radiation Protection Coordinator (Chem/RP Coordinator) that a frisker was not available at the access to the TSC/OSC and that the PCM had a trouble light. While responding to this concern, the Chem/RP Coordinator discovered that a frisker was present at the entrance, but failed to follow up on the potential spread of contamination in the facility. This was due to an inappropriate assumption that since the team was told to simulate they could be considered free of contamination.

Additional individuals were observed by the NRC to enter the TSC/OSC facility without performing appropriate contamination monitoring. The postings which were established by RP personnel to direct contamination monitoring were different than what is normally used in the plant. This resulted in confusion for one individual; since the postings deviated from what is normally encountered in training and in the plant, the individual exhibited less than adequate radworker practices and lack of questioning attitude, and therefore inappropriately bypassed the postings. Other individuals entered without frisking because they were instructed by the controller to simulate frisking, which is inappropriate drill control in that simulation of radiological monitoring does not promote the desired worker behaviors. A separate group of individuals entered without frisking because they had monitored at the plant Radiological Controlled Area (RCA) access point and inappropriately assumed that this met the intent of the postings at the TSC/OSC entrance.

At 1308 the OSC supervisor announced the expectation that personnel perform manual frisks prior to entry to the TSC or OSC due to the PCM being out of service. A contamination survey was conducted at 1310, after an OSC worker informed RP personnel that some people were not utilizing the contamination monitoring equipment prior to entry. The inspectors questioned the appropriateness of the habitability survey procedure since only airborne and area radiation readings were initially specified, even after contamination controls were established outside the TSC/OSC door. Based on this observation, a review of the habitability procedure (which is an Emergency Preparedness Position Instruction Manual, or PIM) was conducted which revealed that guidance for performing a survey of loose surface contamination should be added.

Three additional individuals were observed to enter the facility between 1315 and 1345 without using the contamination monitoring equipment. A security officer notified RP that the PCM was out of service, however the security officer entered the facility without frisking based on instructions given by the RP technician to bypass the monitoring equipment. The RP technician who gave these instructions was not a participant in the drill, and consequently inappropriately assumed that the security officer would contact the OSC RP technicians. Upon being questioned by the NRC, the officer was frisked and an RP technician was stationed at the entrance to the TSC/OSC.

The combination of these factors resulted in less than adequate controls over the potential spread of contamination into the TSC/OSC, due to the failure of personnel to perform adequate personnel contamination monitoring. This was determined to be a result of a failure to communicate the requirement that personnel shall perform contamination monitoring at the entrance to an Emergency Response Organization (ERO) facility, such as the TSC/OSC, once contamination controls are established, regardless of postings used or if personnel monitored at the RCA access point.

A significant contributing factor was the use of unfamiliar equipment for the posting, in the form of a step-off-pad (which was different from that normally encountered in the plant RCA or in training). Postings are used as a method to communicate to plant personnel requirements for entry into a particular location. In the plant RCA, step-off-pads clearly demarcate contaminated areas from "clean" areas in that they are divided in half, with one half indicating "Contaminated" and the other half indicating "Clean." The step-off-pad which was utilized at the entrance to the TSC/OSC was not of this form and simply provided instructions that personnel shall monitor prior to entry, leading to the inappropriate assumption that the area prior to the TSC/OSC entrance was "clean." In addition, yellow and magenta tape is typically used to clearly mark the radiological boundaries; in the case of the TSC/OSC, a white chain was utilized.

Evaluation of Generic Implications

The appropriate utilization of contamination monitors during routine operation, and contamination control at other Emergency Response Facilities was reviewed and no generic concerns were identified.

A comparison of the requirements to enter the Emergency Operations Facility (EOF) versus the TSC/OSC was performed and it was identified that monitoring controls at the EOF were adequate. The security officers stationed at the TSC/OSC are posted inside the facility, however the personnel monitoring equipment is outside the door and thus not within the line of sight of the officers. The security officer stationed within the EOF is posted at the frisker for access control issues and ensures personnel utilize the equipment prior to entry.

Corrective Measures That Have Been Taken

1. The requirement for contamination monitoring during emergency response was reiterated with RP personnel at a daily staff meeting.
2. A site-wide communication was sent to brief ERO staff members on the requirements regarding personnel contamination monitoring.

Improvement Actions That Have Been Taken

Evaluated the adequacy of the PIM governing habitability survey requirements and provided direction that habitability surveys should also include loose surface contamination, when appropriate.

Improvement Actions That Will Be Taken

1. As a follow up to the site-wide communication, each ERO staff member shall review and acknowledge understanding and awareness of the requirements for personnel contamination monitoring.
2. Evaluate and appropriately enhance training for ERO staff regarding contamination control requirements.
3. Revise the Chem/RP Coordinator PIM to provide guidance to inform the TSC/OSC when contamination controls are implemented and the requirement to monitor prior to entering the TSC/OSC.

